Biofuelwatch response to BEIS Consultation on phasing out fossil fuel heating in homes off the gas grid - January 2022

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026356/domestic-offgg-consultation.pdf

The following response is submitted on behalf of Biofuelwatch.

1. Do you agree with the principle of working with the natural boiler replacement cycle as the key trigger to deploy low carbon heat? Please provide evidence to support your response.

The government proposal to replace fossil fuel heating systems such as oil, coal and liquid petroleum gas (LPG) is very welcome as these fuels are harming human health, polluting the environment and making the climate crisis worse so this phase out should happen as soon as possible.

Biofuelwatch supports the proposal to install low carbon heat pumps which allow homes to be electrified using far less electricity than other electrical heating systems. Replacing fossil fuel heating with heat pumps needs to be a government priority due to the worsening climate emergency, particularly as the Climate Change Minister, Lord Callanan, estimates that almost ⅓ of UK carbon emissions come from heating our homes.

2. Would a 2026 end date for new fossil fuel heating installations in homes off the gas grid give industry and consumers sufficient time to prepare for the regulations?

Replacing fossil fuel heating with low carbon heat pumps is a key means of decarbonising homes which are not connected to the gas grid and the growing severity of the climate crisis means that it is vital to reduce UK carbon emissions from domestic heating as quickly as possible.

Research by Greenpeace has found that fewer heat pumps are currently installed and sold in the UK than in many European countries. In order to help industry and households prepare for the replacement of fossil fuel heating, more government support is urgently needed to fund the installation of heat pumps and insulation in homes which are not connected to the gas grid.

3. Do you agree with a heat pump first approach to replacement heating systems in fossil fuel heated homes off the gas grid that can reasonably practicably accommodate a heat pump? Please provide evidence to support your response.

We agree with a heat pump first approach to replacing fossil fuel heating in homes which are off the gas grid. Heat pumps are a crucial means of reducing carbon emissions from homes as they are three times more efficient than gas boilers and can be powered through electricity from renewable energy such as wind and wave power.

Moreover, the recent government-funded ‘Electrification of Heat’ project found that they can be fitted successfully in all types of homes, including detached houses, older properties and high rise flats.

Heat pumps require well-insulated homes to work effectively so it is extremely important for the government to help fund both the installation of heat pumps and insulation for homes which are not connected to the gas grid.

4. Do you have any views on the design or content of guidance that will help households and installers determine whether it is reasonably practicable to install a heat pump? Please provide your answer in this space.

The recent “Electrification of Heat” (EoH) project, which was funded by the Department for Business, Energy and Industrial Strategy (BEIS), found that heat pumps were suitable for all types of homes and heat pumps were successfully installed in a range of properties, including high rise flats and older pre-1945 properties. According to the project findings: “The suggestion that there are particular home archetypes in Great Britain that are “unsuitable” for heat pumps is not supported by the project data.”

These findings indicate that it is reasonably practicable to install heat pumps in all types of homes if the properties are well insulated.

5. Do you have any additional evidence on the size and characteristics of the cohort of homes off the gas grid that have the greatest deployment potential for ground source heat pumps? Please provide your evidence in this space.

According to the Energy Saving Trust, ground source heat pumps are more suitable for homes with enough outdoor space to install a ground loop in order to extract heat from the soil.

The Energy Saving Trust suggests that ground source heat pumps require approximately 2.5-3 times more land than the floor area of the home in order to install the pipework so they are more suitable for homes with gardens or nearby land with enough space to dig trenches or drill boreholes.

The Electrification of Heat Project successfully installed a range of heat pumps, including ground source, low temperature air source and high temperature air source heat pumps, into different types of properties. These included detached, semi-detached, mid-terrace, end-terrace and flats, of different ages, from pre-1919 to post 2001.

6. Do you agree that the performance of replacement heating systems in homes off the gas grid that cannot reasonably practicably accommodate a heat pump should reflect the current high standards of performance that can be delivered through high temperature heat pumps and solid biomass systems? Please provide evidence to support your answer.

We are very concerned that the consultation proposes giving public funding to biomass boilers for off grid homes that cannot “practicably install a low temperature heat pump system”.

Far from being a ‘low carbon' or ‘renewable’ alternative to fossil fuel heating for homes, burning wood in domestic biomass boilers emits carbon dioxide just like burning fossil fuels, and studies have found that burning wood is as bad for the climate as burning coal.

In early 2021, 500 scientists signed an Open Letter stating that additional wood harvest for bioenergy results in "a large initial increase in carbon emissions...[which] will increase warming for decades to centuries. That is true even when the wood replaces coal, oil or natural gas".

The UK is already the largest subsidiser of wood burning for energy in Europe and the vast majority of this wood is imported from clear-felled biodiverse forests in the Southern USA,

Canada, Estonia and Latvia, with devastating impacts on forests, wildlife, communities and the climate.

Using public money for biomass boilers in homes will increase the amount of wood that the UK burns, leading to higher carbon emissions, regardless of whether this wood is imported or sourced from within the UK. Subsidising biomass for domestic use is also likely to lead to increased forest destruction and biodiversity loss. This is not consistent with meeting the UK's climate commitments and environmental sustainability objectives.

Biofuelwatch therefore believes that biomass boilers should not be eligible for government grants as they are not a sustainable form of heating: wherever it is sourced from, burning wood biomass is bad for the climate.

Instead, public funding should only be used for genuinely low carbon forms of heating such as insulation and heat pumps, including high temperature heat pumps. The recent government-funded "Electrification of Heat Project" found that heat pumps can be successfully installed in all types of homes, including detached properties and high rise flats.

This means that the government does not need to invest in dangerous false solutions like biomass boilers or liquid biofuels. Nor would a heat pump first approach compromise on performance as heat pumps have been found to be suitable for all types of homes if they are well insulated.

7. Do you agree that future use of solid biomass to decarbonise heat in homes off the gas grid should be limited to rural, off-gas grid areas where air quality can be better controlled, and in 'hard to treat' properties that are not suitable for other low carbon heating technologies? Please provide evidence to support your response.

We do not agree that government subsidies should be used to fund solid biomass boilers for homes off the gas grid in rural areas or in 'hard to treat' properties because of the harmful impacts of biomass boilers on forests, biodiversity, air quality and the climate.

Studies have shown that burning wood for energy is not carbon neutral as it will take decades or longer for new trees to grow and absorb the emissions produced by logging and transporting trees that are burned today. This is time we do not have if we are to avoid the worst impacts of the climate crisis. As over 500 scientists highlighted in an open letter to President Biden and other world leaders in early 2021: "Overall, for each kilowatt hour of heat or electricity produced, using wood initially is likely to add two to three times as much carbon to the air as using fossil fuels."

The UK is already importing huge quantities of wood to burn as biomass energy in power stations like Drax and much of this wood comes from clear-felled biodiverse forests in the Southern USA, Canada, Estonia and Latvia. This logging and biomass burning is leading to forest destruction, biodiversity loss, the pollution of communities and higher carbon emissions.

Any government funding for domestic biomass boilers will add to the amount of wood that the UK burns and will lead to increased carbon emissions, regardless of whether this wood is sourced from within the UK or is imported. Subsidising biomass for domestic use in homes off the gas grid is also likely to result in further forest destruction and biodiversity loss.

We are equally concerned about the air pollution impacts of biomass boilers. The consultation document emphasises that solid biomass systems cannot be deployed in

(mostly urban) areas because of air quality impacts and we do not believe that they should be subsidised for homes off the gas grid in rural areas.

Wood-burning biomass boilers emit nitrogen oxides (NOx), - NO2 has been linked to breathing problems. They also emit PM2.5 particulates which can contribute to the risk of developing heart disease and lung cancer . The World Health Organisation highlights that there are no safe levels of PM2.5 particulates for human health.

As heat pumps have been found to be suitable for all types of properties, the Government should instead invest in genuinely low carbon options such as high temperature heat pumps for any off grid homes in England which cannot "practicably install low temperature heat pump systems", rather than dangerous false solutions like biomass boilers.

We urge the Government to support the installation of genuinely low carbon heat pumps, including high temperature heat pumps, rather than biomass boilers as burning wood biomass is harmful for biodiversity, human health and the climate.

8. Do you have any views on the development of heating fuels and systems which will be consistent with wider government objectives on net zero emissions, environmental sustainability and air quality, and offer a secure and affordable fuel supply to consumers, from 2026? Please provide evidence to support your answer.

We are very concerned that the consultation proposes funding liquid biofuels as an alternative to fossil fuel heating systems.

Far from being 'low carbon, 'green' or 'renewable' alternatives to fossil fuel heating for homes, liquid biofuels make climate change, air pollution and the destruction of forests and other habitats worse.

Burning liquid biofuels such as Hydrotreated Vegetable Oils (HVO) can emit levels of ozone and other particulate matter (PM) pollution which are comparable with diesel emissions, and a major contributor to respiratory health problems.

Moreover, biofuels from vegetable oils are linked to deforestation in countries such as Indonesia, Paraguay and Argentina, where large areas of forests are being cleared to make way for monoculture palm oil or soya plantations. This is leading to less land and water being available for communities to grow food.

Clearing forests to make way for energy crops is also destroying natural ecosystems that play a vital role in keeping planet-warming carbon out of the atmosphere and that are home to threatened species. Even if the feedstock from biofuels is not directly linked to deforestation or land grabbing, it almost always results in indirect land use change and therefore in precisely those impacts as well as in high carbon emissions. Even the use of most biofuels from wastes and residues is linked to such indirect impacts.

As industry residues are already fully utilised, increasing market demand for vegetable or animal fats for fuel will indirectly lead to a rise in the use of palm and soya oil - which are already linked to deforestation in other sectors - or the use of fossil fuels elsewhere.

Any government funding for biomass boilers and the burning of liquid biofuels in homes would therefore increase demand for imported wood and vegetable oils, leading to even more forest destruction, biodiversity loss, harm to communities and carbon emissions. This is not consistent with government objectives on environmental sustainability, air quality or on cutting emissions.

In contrast, heat pumps are a genuinely low carbon alternative to fossil fuel heating and a crucial means of reducing carbon emissions from homes as they can be powered through electricity from renewable energy such as wind and wave power.

Since heat pumps require well-insulated homes in order to work efficiently, it is vital for the government to offer more financial support for off-grid households in England to enable them to insulate their homes and install heat pumps. The Government should also cover the upfront costs of heat pumps and insulation for people on low incomes to reduce fuel poverty and ensure an affordable and secure fuel supply to homes off the gas grid.

9. Do you agree with an end date for the use of remaining fossil fuel heating in homes off the gas grid by the late 2030s? Please provide evidence to support your answer.

Recent data has shown that the last seven years have been the hottest on record with the first analysis of global temperature in 2021 showing that it was 1.2C above pre-industrial levels. The escalating scale of the climate crisis means that the end date to decarbonise homes and replace fossil fuel heating with low carbon heat pumps should be as soon as possible rather than the late 2030s.

Many countries in Europe are already successfully deploying heat pumps for domestic heating and research by Greenpeace has found that the UK currently sells and installs fewer heat pumps than most European countries.

In order to accelerate the transition from fossil fuel heating to low carbon heat pumps in homes that are not connected to the gas grid, more government funding to cover the costs of home insulation and heat pump installation is needed along with investment to train large numbers of heat pump installers in England.

10. Do you have any views on measures the Government could introduce to ensure that fossil fuel heating will no longer be used in homes off the gas grid by the late 2030s? Please provide evidence to support your answer.

In order to ensure that fossil fuel heating will no longer be used in homes off the gas grid, it is essential for the Government to fund low carbon alternatives like heat pumps and insulation, and not invest in dangerous false solutions like biomass boilers and liquid biofuels.

As heat pumps require well-insulated homes in order to work efficiently, it is necessary for the government to offer more financial support for off-grid households in England to enable them to insulate their homes.

The Government should also fully cover the upfront costs of heat pumps and insulation for low income households off the gas grid in order to reduce fuel poverty.

Government investment in training programmes for heat pump installers is also a key means of ensuring that fossil fuel heating systems are replaced more quickly and this measure would help to create new long-term green jobs.

11. Do you have any views on how best to ensure compliance with the proposed regulations laid out through this consultation?
Please provide evidence to support your answer.

More financial support from the Government to make low carbon heat pumps affordable for households would increase the adoption of low carbon heat pumps.

This includes government funding to cover the upfront costs of heat pump installation and the cost of home insulation for low income households.

In addition, more government funding is required for training programmes to ensure that heat pumps are installed correctly.

12. Do you have any views on what more could be done to address financial barriers to heat pump deployment? Please provide evidence to support your answer.

Government funding is needed, particularly for additional costs such as wall, underfloor and loft insulation to ensure that heat pumps work effectively. This would reduce the cost of heat pumps as the industry scales up.

The Government also needs to cover the costs of insulation and heat pumps for low income households to reduce fuel poverty.

Other options that could help address financial barriers to heat pump deployment include proposals from Greenpeace for the Government to offer financial incentives such as lower Stamp Duty on more energy efficient homes, or not charge VAT on heat pumps and insulation.

14. Do you have any views on what more could be done to galvanise supply chains for low carbon heating? Please provide evidence to support your answer.

Recent research by Greenpeace has found that the UK is currently falling behind many European countries in selling and installing heat pumps.

A key way to galvanise supply chains for low carbon heating is for the government to increase investment in heat pumps and insulation, whilst also funding training for more heat pump installers.

This would create new long-term green jobs, ensure heat pumps are fitted by expert installers and help to lower the cost of heat pumps.

15. Do you have any additional evidence on how groups protected under the Public Sector Equality Duty may be affected by our proposals to phase out high carbon fossil fuel heating in homes off the gas grid? Please provide evidence to support your answer.

According to Friends of the Earth, people in groups protected under the Public Sector Equality Duty can be unfairly and disproportionately impacted by a badly planned transition to low carbon living and are particularly vulnerable to climate impacts.

Previous government research has shown that more than three million people live in fuel poverty across England. Those considered fuel poor are typically people on a low income and living in poorly insulated homes. Friends of the Earth has also found that people of colour are twice as likely to be living in fuel poverty as white people, while areas identified by the government as having a high number of residents with disabilities or other health needs are more likely to be rated in the worst category for fuel poverty.

The government needs to ensure that vulnerable people as defined in the Public Sector Equality Duty do not suffer inequality in accessing affordable heating, including older people

and people with health issues. Although not a protected characteristic, we are also very concerned about the impact of rural poverty and that people in rural areas may be disproportionately negatively affected by not being connected to the gas grid.

Government funding to help people insulate their homes and install heat pumps would address some of these inequalities, particularly for those on low incomes.

16. Do you have any views on what more could be done to ensure households, and communities, affected by our proposals experience a smooth transition to clean heat? Please provide evidence to support your response.

In order to ensure a smooth transition to clean heat, reduce fuel poverty and cut carbon emissions, government investment is urgently needed to ensure that more heat pumps can be installed and more homes can be insulated as quickly as possible.

Financial support should be provided to train more heat pump installers and to help cover the costs of insulating homes and installing heat pumps, particularly for households on low incomes.

The Electrification of Heat Project demonstrates a proven working model of how heat pumps could be rolled out to customers not on the gas grid via energy suppliers.

17. Do you have any further comments to make on our proposals to phase out high carbon fossil fuel heating in homes off the gas grid? Please provide evidence to support your answer.

We welcome the proposals to phase out fossil fuel heating in homes off the gas grid and feel this phase out must happen as soon as possible due to the urgency and seriousness of the climate crisis.

We fully support the heat pump first approach as this is an existing and proven technology which has been shown to cut carbon emissions and to work in all kinds of properties. Therefore, with the right policies and allocation of government funding for genuinely low carbon heat pumps and insulation, a smooth transition to clean heat can begin straight away.

We would like to reiterate that we do not support funding for phasing out fossil fuels to be used to subsidise the burning of liquid biofuels or solid biomass of any kind as this is simply another route for carbon emissions to enter the atmosphere, regardless of where the wood or biofuels are sourced.

Heat pumps on the other hand provide a positive solution which can help us to lower carbon emissions from housing whilst also improving air quality and offering a secure and affordable way of heating our homes.